REMARKS

Claims 2-5, 8, 10 and 11 have been cancelled, claims 1, 6, 7 and 9 have been amended and new claims 12-14 have been added.

Support for the amendment of claims 1, 6, 7 and 9 are found in the originally filed claims 1-11.

Support for the new claims: claim 12 is found in the specification at pages 9 to 16, Examples 1 and 2; claim 13 is found in Example 1, pages 9-13 and claim 14 is found in Example 2, pages 13-16.

No new matter has been introduced. Entry of the amendment is requested.

The pending claims are claims 1, 6, 7, 9, 12-14.

RESPONSE

The Examiner has required the submission of an English translation of the priority document, CN 00131217.0 filed December 3, 2000. Enclosed herewith is a copy of the English translation thereof.

Rejection under 35 USC §101

Claim 11 has been rejected as being directed to non-statutory matter. Claim 11 has been cancelled and the rejection is now moot.

Rejection under 35 USC §112, second paragraph

Claim 6 has been rejected as being indefinite for reciting transformation technique for which there is lack of antecedent basis. Claim 6 has been amended to recite a method for preparing a transgenic Dunaliella Salina bioreactor by transforming the cells of Dunaliella Salina by transformation with an expression vector comprising a foreign target gene, such as TNF gene fragment or hepatitis surface antigen gene fragment together with a selectable marker for a specific antibiotic resistance or herbicide resistance. Claim 6 as amended no longer recites "transformation technique." It is believe that the rejection on this basis has been overcome by amended claim 6.

Rejection under 35 USC §112, first paragraph

Claims 1-11 were rejected for lack of enablement. It is the contention of the Examiner that the breadth of the claimed invention was not sufficiently supported by the description in the specification for enablement.

Claims 2-5, 8 and 10-11 are cancelled. Claims 1 has been amended and recite Dunaliella Salina transformed specifically with TNF or HBsAg with a selectable marker as a bioreactor . Claims 6, 7, and 9 have been amended to recite a method of transforming Dunaliella Salina with TNF or HBsAg together with a selectable marker. As amended, the claims are fully enabled by Examples 1 and 2.

New claim 12 is directed to a method of transforming Dunaliella Salina with TNF or HBsAg by the construction of a expression vector containing a fragment of the foreign target genes, TNF or HBsAg.

New claim 13 is directed to a specific method of transforming Dunaliella Salina with a TNF gene fragment together with a specific selectable marker for spectinomycin resistance. This is fully supported and enabled by Example 1.

New claim 14 is directed to a specific method of transforming Dunaliella Salina with a HBsAg fusion gene fragment together with a specific selectable marker for PPT resistance. This is fully supported and enabled by Example 2.

Applicant believes that as amended and presented, claims 1, 6, 7, 9, 12-14 are fully enabled and the rejection has been overcome.

Rejection under 35 USC §102

Claims 1-7, 10 and 11 were rejected as being anticipated by Porath et al., Phycologica, 1997, 36(4):89. Claims 2-5, 10 and 11 have been cancelled. The rejection is being responded to as applied to claims 1, 6, 7, 9 and 12-14.

Claims 1, 6, 7 and 9 as amended and new claim 12 are directed to Dunaliella Salina transformed with a foreign target gene selected from TNF or

HBsAg as a bioreactor and a method for same. New Claim 13 is directed to a method for transforming Dunaliella Salina with a cDNA representing a fragment of TNF and aadA gene encoding spectinomycin resistance. New Claim 14 is directed to a method for transforming Dunaliella Salina with a fusion of cDNA fragments of HBsAg and BAR gene encoding herbicide resistance.

A review of Porath et al. shows that it describes the development of a transformation system for Dunaliella Salina by a construct of the cbr gene of Dunaliella bardawil fused to its genomic upstream sequence. The selection system used was the gene conferring Phleomycin resistance fused to a D. Salina genomic fragment containing an endogenous promoter. Porath et al. did not describe or disclose Dunaliella Salina transformed with a gene fragment of TNF or HBsAg. Further, Porath et al. did not describe or disclose the transformation of Dunaliella Salina with a selection system comprising aadA gene encoding spectinomycin or streptomycin resistance or the BAR gene encoding for PPT resistance.

Under the law, anticipation can only be found if each and every element of the claimed invention is found in a single reference. Thus, Porath et al. cannot be regarded as anticipatory of the invention as claimed in Claims 1, 6, 7, 9 and 12-14.

Since there is no suggestion in Porath et al. of how to transform Dunaliella Salina with a gene fragment of TNF or HBsAg together with the aadA gene encoding spectinomycin or streptomycin resistance or the BAR gene encoding for PPT resistance. The invention as claimed in claims 1, 6, 7, 9, and 12-14 cannot be regarded as obvious in view of Porath et al.

Although two additional references were cited: Chasan, The Plant Cell, 1992, 4:1-2 and Hansen et al, Trends in Plant Science, 1999, 4:226-231, these were not applied. Thus, no further comments are necessary.

It is believed that the application as amended is in condition for allowance. The issuance of a notice of allowance is requested.

Please note that the correspondence address has changed.

Respectfully submitted,
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Date: October 5, 2004

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